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**Bureau of Resource Protection**  
**Title 5 / Criteria for Reducing or Discontinuing Monitoring and Reporting**  
**for Remedial Use Systems**

Effective Date: July 6, 1999

Policy No.: BRP/DWM/PeP-P99-2

Program Applicability: Title 5 Innovative/Alternative (I/A) Technology Program in Boston and Regions

Supersedes Policy No.: None

Regulation Reference: 310 CMR 15.284

Approved by: Glenn Haas, Director, Division of Watershed Management

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PURPOSE: This policy sets forth the Department's position on discontinuing or reducing monitoring of effluent and reporting the results of the monitoring for Remedial Use approved on-site subsurface sewage disposal systems ("Title 5" systems).

APPLICABILITY: This document provides guidance to the Department, particularly, the Title 5 I/A Program, in Boston, and the regions.

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BACKGROUND

The Approvals for Remedial Use for innovative/alternative (I/A) technologies, issued pursuant to 310 CMR 15.000, obligate the owner/operator of the system to conduct quarterly sampling and analysis of effluent from the unit for at least one year after the system is placed into operation. The Approvals require the system owner to submit to DEP an annual monitoring report with the monitoring results by January 31 of the following year. The one year period was adopted to permit the Department to collect treatment data on a variety of technologies as well as ensure that the systems, individually, were properly installed and operated. The Approvals

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provide that the owner/operator may petition the Department, at the end of one year of operation and monitoring, to reduce or eliminate sampling, analysis, and reporting of the data.

**This policy applies only to systems requiring monitoring for pH, BOD and TSS. This policy does not apply to systems that are required to be monitored for nitrogen reduction.**

### **ISSUES**

One year of operation of a Remedial Use treatment system provides four sets of sampling data from the treatment unit. Requiring the owner/operator to continue monitoring and reporting four times per year beyond the first year is costly. Effluent quality should not vary to any significant degree once the units are mature and have been operating in a satisfactory manner for one year. In almost all cases, a properly functioning biological system will reach treatment efficiency within four to eight weeks of being placed into operation.

A significant amount of effluent monitoring data on Remedial Use technologies utilizing biological treatment has been submitted to the Department. The data indicates that the vast majority of the installed systems discharge, on a continuous basis, an effluent with BOD and TSS concentrations below 30 mg/l. This corresponds to a typical secondary treatment effluent limit. At least 75 percent of the data sets show effluent BOD and TSS below 15 mg/l.

Remedial Use systems are installed on existing sites to replace failed or nonconforming systems. The previous system, if a conventional Title 5 system, even if functioning properly, would have discharged a septic tank effluent with a BOD in the range of 150 mg/l and TSS of 60 mg/l. Effluent from properly functioning Remedial Use systems is, in almost all cases, of a significantly higher quality than was previously discharged to the soil absorption system (SAS). This increased quality of effluent is necessary due to the reduced level of treatment afforded by most soil absorption systems installed on remedial sites.

Remedial Use systems, approved under BRPWP64c, have been installed with: 1) the SAS reduced up to 50 percent; 2) less than four feet of naturally occurring pervious soil below the SAS; and 3) reduced distance from the bottom of the SAS to the high groundwater elevation. In many instances, installation of a Remedial Use system with a modified SAS is the only feasible solution for a difficult site. By providing the higher quality of treatment from the I/A treatment unit, the effluent under the modified SAS should still meet the Department's requirement of environmental protection at least equivalent to a conventional Title 5 system.

### **APPROACH**

The Title 5 regulations offer the Remedial Use Approval process, BRPWP64c, as a procedure to at least improve, if not eliminate, existing problems for facilities served by failed or nonconforming systems by allowing the use of a variety of alternative treatment technologies on difficult sites. As noted above, the Remedial Use Approval allows the owner/operator to petition the Department after one year of system operation to reduce or eliminate the monitoring of the effluent and reporting that data. Also as noted above, the data that the Department has been

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receiving on these systems indicates biological systems mature within about 30 to 60 days and tend to continuously provide an effluent meeting or exceeding secondary treatment limits.

Based on a written request from the owner/operator, the Department will allow reduction in monitoring the effluent, from four times to once per year, for a system that has four consecutive quarters of satisfactory data on BOD and TSS, provided that the system is otherwise in compliance with the Approval. Effluent BOD and TSS concentrations for a well operating system will be considered to average 30 mg/l or less. By reducing effluent monitoring for these systems, the Department reduces the cost to the system owner/operator by approximately \$400 per year, without completely eliminating sampling of the effluent. As the Remedial Use Approvals provide,<sup>1</sup> the system owner/operator remains under the requirement to have an approved operation and maintenance agreement and to contract with an appropriate operator to operate and inspect the system, at least on a quarterly basis. At least one monitoring event per year is required to confirm that the I/A system still is in operation and performing as designed.

In all cases where the Department allows reduced effluent monitoring, the owner/operator will be required to continue to submit to DEP an annual report on the operation of the system. The annual report will be required to be submitted by January 31 of each year. The report must include: 1) a description of the operation of the system for the calendar year; 2) system inspection and emergency service information; 3) any other pertinent information that describes the condition of the system; and 4) results of the annual effluent monitoring. It must be prepared by the operator contracted to inspect and maintain the system. Future technology as well as individual Remedial Use Approvals from the Department will include the requirement for submission of annual reports for the life of the system. This will eliminate the need to add the requirement in the discontinuance letter for systems installed under such future Remedial Use Approvals.

In certain cases, the Department also may allow reduced monitoring for systems without four consecutive quarters of data. For example, when data has been previously collected and reported, but then a period has intervened with no data collection because the facility was sold. In these cases, the Department may reduce monitoring without four consecutive quarters of data, provided that at least two consecutive quarters of operating data are available from the new system owner/operator to show that the system is operating as designed, and two prior consecutive quarters of data also are available from the previous owner/operator's most recent use of the system. Additionally, the system must be in compliance with the Approval. Collecting two consecutive quarters of data from the current system owner/operator coupled with two consecutive quarters from the previous owner/operator's last use, should provide a sufficient period to evaluate the system's operation. The Department will take this same approach for systems that have not been used continuously due to facility non-use as a result of, for example, renovations or other conditions.

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<sup>1</sup> Relative to operation and maintenance, Remedial Use Approvals generally require that the owner/operator have an approved O & M agreement, that the system be under an O & M contract and that a certified operator operate and maintain the system at least every three months.

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The Department also may allow reduction of monitoring for seasonally used systems without four consecutive quarters of data, provided that the system otherwise is in compliance with the Approval. In seasonal occupied dwellings, such as Cape Cod cottages, the owner/operator can not collect meaningful data over four consecutive quarters. In those cases, the owner/operator should typically be required to monitor and report twice per year during the period when the system is being used, for at least two years. This schedule should allow the Department to assess the operational characteristics of seasonally operated systems and how those systems react to startup and operation after a long, dormant period. In these cases, i.e. after the two years of monitoring and compliance with the Approval, the Department will reduce monitoring to once per season, with sample collection required approximately 30 days after start up. The system owner/operator will be required to retain the operation and maintenance operator to monitor startup and shut down of the system, each season. Again, the Department will require the system owner/operator to submit an annual report on the system's operation, as described previously.

In all of the above situations, the Department will instruct the owner/operator that local requirements are not affected. Local monitoring and reporting requirements, if any, must be continued.

### **PILOTED SYSTEMS**

The Department will continue to require that any owner/operator with a system allowed under a Pilot Use Approval on a remedial site continue to monitor and report for a minimum of 18 months. These systems are being piloted to determine the technology's treatment capabilities. Moreover, this approach relative to systems being piloted is consistent with the Title 5 regulations, which require systems under piloting approval to be monitored for a minimum 18 months. See 310 CMR 15.283 (3).

### **IMPLEMENTATION**

This policy will be implemented within each regional office and in Boston. Each region will copy the Boston office when implementing this policy. That is, when responding to a system owner's request to reduce or eliminate monitoring, the regional office will copy the Title 5 program in Boston. The Boston office will also receive from the regions copies of any sampling data submitted to the regions for inclusion in a central database. Database information will be shared with all regions.

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### **Suggested Format for DEP letter to Owner/operator -**

The Department has received a letter dated [ date ], requesting reduction or elimination of monitoring and reporting of pH, BOD and TSS on a quarterly basis on the effluent from the alternative on-site sewage treatment and disposal system at the above referenced facility. The Department's Approval for Remedial Use for the system, Transmittal Number: [ number], in section III (4.) states that "After one year of monitoring and reporting, and at the request of the owner/operator the Department may reduce or eliminate these monitoring and reporting requirements."

#### (Year Round System)

The Department, having reviewed the monitoring data for this technology, in general, and for your system, approves your request to reduce effluent monitoring of the system, from four times to one time per year. The data has demonstrated that the technology provides environmental protection at least equivalent to a conventional Title 5 system. The change in monitoring requirements in no way changes the requirement that, throughout its use, the system shall be under an operation and maintenance agreement with a person or firm qualified to provide services consistent with the system's specifications. As a condition of allowing you to reduce effluent monitoring, however, by January 31 of each year, you must submit to DEP [ Boston or region] an annual report for the calendar year that includes: 1) a description of the operation of the system ; 2) system inspection and emergency service information; 3) any other pertinent information that describes the condition of the system; and 4) results of the annual effluent monitoring. The report shall be prepared by the operator contracted to inspect and maintain the system. Additionally, as required by the Approval for the system, any time the operator changes, you shall notify the Department and the local approving authority, in writing, within seven days of such change.

Please be aware this change in monitoring does not apply to any local requirements. You should discuss any changes from the local monitoring requirements, if any apply to your system, with your local Board of Health officials.

#### Or: (Seasonal System)

The Department, having reviewed the monitoring data for this technology, in general, and for your system, approves your request to reduce effluent monitoring for your system to one time per season, which shall occur within 30-40 days after seasonal startup. The data has demonstrated that the technology provides environmental protection at least equivalent to a conventional Title 5 system. The change in monitoring in no way changes the requirement that, throughout its use, the system shall be under an operation and maintenance agreement with a person or firm qualified to provide services consistent with the system's specifications. As a condition of allowing you to reduce effluent monitoring, however, by January 31 of each year, you shall submit to DEP an annual report for the calendar year that includes: 1) a description of the operation of the system; 2) system inspection and emergency service information; 3) any other pertinent information that

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describes the condition of the system; 4) information on system startup and shut down; 5) results of the annual effluent monitoring; and 6) certification that the use of the system is seasonal rather than year round. Moreover, should the use change from seasonal to year round, the owner/operator must immediately notify DEP and the local Board of Health and implement a DEP approved yearly operation and maintenance schedule. The report shall be prepared by the operator contracted to startup and shut down and inspect and maintain the system. Additionally, as required by the Approval for the system, any time the operator changes, you shall notify the Department and the local approving authority, in writing, within seven days of such change.

Please be aware, this change in monitoring does not apply to any local requirements. You should discuss any changes from the local monitoring requirements, if any apply to your system, with your local Board of Health.